UPT 3.2.0

Local Installation Guide for LSD 1.1.0

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Introduction

This UPT 3.2.0 installation Guide provides you with the instructions to install and configure the UPT 3.2.0 application in your environment. The UPT installation installs and configures the JBoss application servers.

NOTE	Published UPT documentation can be found on the UPT section of the LSD GForge site: https://gforge.nci.nih.gov/frs/?group_id=450

Overview of UPT Installation	The process for installing UPT includes the following tasks described in this document:
	   a. Downloading and installing required software
	   b. Setting environment variables
	   c. Downloading UPT 3.2.0 distribution files
	   d. Installing UPT
	   e. Configuring JBoss

Before You Proceed	• Please contact us directly with any questions:
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	   Telephone: 301-451-4384
	   Toll free: 888-478-4423
	
	• Directions are given in this document for both Linux and Windows operating systems.

UPT 3.2.0 Software and Technology Requirements

Tested Environment	The UPT 3.2.0 installation has been tested on Linux Red Hat Enterprise Linux AS 4 64/32-bit (for AMD chipset) and the Windows XP/2003 environments. While the installation may work in other Linux and Windows environments, it has only been tested in these environments.

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Required Software—Not Included in UPT

Many of the servers and services that make up UPT 3.2.0 are automatically installed as part of this installation. However, certain tools that you must manually install and configure are listed in Table 1. The software name, version, description, and URL hyperlinks (for download) are indicated in the table.

Prior to the UPT 3.2.0 installation, you must download and install the following tools and recommended versions in the order they are listed. Complete the directions for installing each, as directed on the corresponding website.

Required Software Name Version	Description
Java 2 Platform Standard Edition 5.0 Update 10 (J2SE 5.0) http://java.sun.com/products/archive/j2se/5.0_10/. Be sure to download the correct Java SDK for your operating environment. For example, for Linux AMD 64, you would download `jdk-1_5_0_10-linux-amd64-rpm.bin`. For Windows, you might download `jdk-1_5_0_10-windows-i586-p.exe`.	The J2SE Development Kit (JDK) supports creating J2SE applications.
Apache Ant, 1.7.0 https://gforge.nci.nih.gov/svnroot/lsd/trunk/tools/apache-ant-1.7.0-bin.zip	Apache Ant is a Java-based build tool.

Table 1 Required Software

IMPORTANT	As you install each application, record the installation directory path. Also, if you plan to install caArray and/or NCI locally, do these installs first and record the hostname, application port, and grid port for each.

Java SDK Installation

When you install the Java SDK, you will be prompted to select the installation directory. Record the path, as this directory will be used when you set the environment variables.

Apache Ant Installation

Unzip the Apache Ant distribution files using a command line unzip tool or a zip utility, such as WinZip.

After extracting the zip, you must set the environment variables, described in the following section, so that Ant is available in the system PATH.

Apache Ant Environment Variables

NOTE	The purpose of setting operating system environment variables is so that the Java SDK and Ant build tool are available to run from anywhere in the system.

Linux

To set the environmental variables in Linux, follow these steps:

NOTE	The `JAVA_HOME`, `ANT_HOME` and `PATH` environment variables are set in `/etc/profile`. You may need to create the variables, or modify them if they already exist.

Step	Action

1	As the root user (or sudo w/ privileges), enter the following in the `/etc/profile` file. A PATH variable should already be created in this file, so be sure to define the JAVA_HOME and ANT_HOME export before the PATH export. Replace <installation_directory> with the directory where you have installed the Java SDK and Ant.
	
	(The location example in the Apache Ant installation is `/usr/java`.)
	
	`export JAVA_HOME=<installation_directory>/jdk1.5.0_10`
	
	`export ANT_HOME=<installation_directory>/apache-ant-1.7.0`
	
	`export PATH=$JAVA_HOME/bin:$ANT_HOME/bin:$PATH`

Step	Action
2	Log out and log back in so that the system recognizes your changes.

Verifying the Environment Variables in Linux

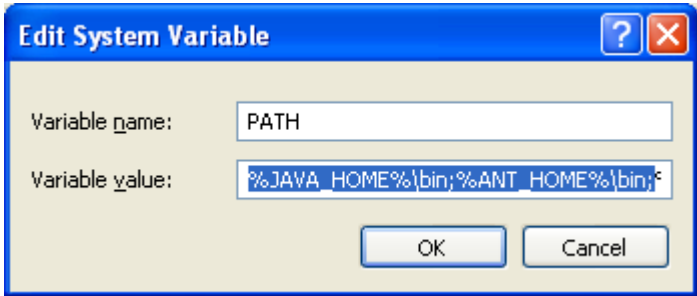To verify that environment variables have been set correctly, follow these steps:

Step	Action
1	From the command line, enter: **echo $JAVA_HOME** **echo $ANT_HOME** Both of these commands should return the location where you installed these tools.
2	To verify your Java SDK installation, enter **java –version** from a command prompt. You should see java version "1.5.0_10".
3	To verify your Ant installation, enter: **ant –version** from a command prompt. You should see: Apache Ant version 1.7.0 compiled on December 13 2006.

Windows

To set the environmental variables in Windows, follow these steps:

NOTE	The JAVA_HOME, ANT_HOME and PATH environment variables are set in the Systems Properties.

Step	Action
1	In Windows, select **Control Panel**, then select the **Systems** application. In the Systems window, select the **Advanced** tab.

Step	Action
2	On the **Advanced** tab, click the **Environment Variables** button. To add a new system variable, select the **New** button. a. In the **Variable <u>n</u>ame** text box, enter *JAVA_HOME.* b. In the **Variable <u>v</u>alue** text box, enter the location of your Java installation.
3	Click the **New** button again. a. In the **Variable <u>n</u>ame** text box, enter *ANT_HOME.* b. In the **Variable <u>v</u>alue** text box, enter the location of your Ant installation.
4	Select the PATH system environment variable, and select the **Edit** button. This opens the Edit System Variable dialog box, displayed here as an example. **Edit System Variable** Variable <u>n</u>ame: PATH Variable <u>v</u>alue: %JAVA_HOME%\bin;%ANT_HOME%\bin; OK Cancel
5	In the Variable value text box, prepend the following text in front of the text that already exists in the **Variable Value** field. *%JAVA_HOME%\bin;%ANT_HOME%\bin;* Click **OK**.

Verifying the Environment Variables in Windows

To verify the environment variables have been set correctly, follow these steps:

Step	Action
1	From the command line, enter: *echo %JAVA_HOME%* *echo %ANT_HOME%* Both of these commands should return the location where you installed these tools.
2	To verify your Java SDK installation, enter *java -version* from a command prompt. You should see java version "1.5.0_10".

Step	Action
3	To verify your Ant installation, enter **_ant –version_** from a command prompt.
	You should see: `Apache Ant version 1.7.0 compiled on December 13 2006`.

NOTES

Environment variables for UPT will be modified and set in those sections of this document: Installing a New UPT on page 7.

Installing UPT 3.2.0 Application and Services

To install the UPT 3.2.0 application and services, follow the steps in this section:

- Downloading UPT 3.2.0 files from GForge
- Installing a New
- Configuring JBoss to Run as a Service

IMPORTANT

Before running the installers, be sure your Database Administrator has created an empty database (if installing the software for the first time) and a database user with full access to this database. Once the database has been created and permissions granted, you will need the following information before beginning the install:
- Database Name
- Database User
- Database Password
- Port where MySQL is installed

Downloading UPT 3.2.0 files

To download the UPT 3.2.0 files, follow this step:

Step	Action
1	The installation file for UPT 3.2.0 is over 100MB.
	• For a new installation, from the https://gforge.nci.nih.gov/frs/?group_id=450 directory in GForge, download the `upt_gui_distribution_3_2_0.jar` file.
	Remember the download location as you will be using this file to run the installation in the steps that follow.

Server Components in UPT 3.2.0	These server components are installed and configured as part of the UPT 3.2.0 installation. You do not need to do anything further to download or install these components. • JBoss 4.0.5 (hosts the UPT application)

Installing a New UPT

For performing a new installation of UPT, v. 3.2.0, follow these steps:

Step	Action
1	From the directory where you downloaded the `upt_gui_distribution_3_2_0.jar` from [Downloading UPT 3.2.0 files](#), open a command prompt and type: `java -jar upt_gui_distribution_3_2_0.jar`
2	A graphic user interface (GUI) wizard-based installer will prompt you for information. Follow the instructions.
3	Configuring property values is an important step in the installation process. For detailed information on the property values you will enter during the installation process, see https://wiki.nci.nih.gov/x/Baml

The GUI installer generates installation files into the `${user.home}` directory. (For example, in Windows, this might be something like `C:\Documents and Settings\nate.greene\.installer-upt`). In particular, the installer generates a file called **antlog_installer.txt** in this directory that can be useful when troubleshooting.

Running GUI installer in Headless Environment

NOTE 	If you are attempting to use the GUI installers in an environment that has no GUI (such as a headless Linux operating system), you can install a tool on your Windows workstation to install in a remote headless environment. See https://wiki.nci.nih.gov/x/gq6l for more information.

Command-Line Installation

NOTE	An alternative to using the GUI-based installer is to install UPT via the command line. See https://wiki.nci.nih.gov/x/taql for detailed instructions on installing from the command line.

JBoss Errors During Installation

NOTE	You may receive an error such as Exception in thread "main" `java.lang.NoClassDefFoundError: org/jboss/Shutdown`. This should not be a problem, as the installer attempts to remove previously installed servers to prevent problems during the installation. If this is your first time installing UPT, you may receive and disregard this error message.

Configuring JBoss

NOTE	For optimal performance, you must modify your JBoss 4.0.5 configuration to increase the amount of available memory for the UPT application. Directions for doing this in Windows are in the following step 1.

To configure JBoss in **Windows**, follow these steps:

Step	Action
1	Add the following entry to the JBoss `run.bat` file which is located will be located at `<application_root_directory>/jboss-4.0.5.GA/bin/run.bat`. Add the text right after the line "`rem Add -server to the JVM options, if supported`". `-server -Xms1024m -Xmx1024m -XX:ThreadStackSize=128 -XX:SurvivorRatio=10 -XX:PermSize=128m -XX:MaxPermSize=128m -Dsun.rmi.dgc.client.gcInterval=3600000 -Dsun.rmi.dgc.server.gcInterval=3600000 -Djava.awt.headless=true` **Warning**: Be careful when copying and pasting from this document, whether PDF or MS Word. No spaces must come before and after the columns. A safe way to ensure that the text has no unwanted space and unwanted characters is to copy the text into a blank NotePad first. Correct the spacing, then copy and paste back into the `run.bat` file.

Step	Action
2	Restart your JBoss 4.0.5 server for the changes to take effect. The method of doing this may depend on the start/stop/restart scripts you created after the installation. Most commonly, you can execute `shutdown.bat` and then `run.bat` under `$JBOSS_HOME/bin`. Refer to the publicly available JBoss user's guide at www.jboss.org for more information.

Configuring JBoss to Run as a Service

NOTE	The JBoss server that runs UPT must run continually as a service. The instructions in this section covers this scenario. For UPT 3.2.0, there are is a single server: • JBoss 4.0.5 (for UPT application)

Running JBoss as a Service

NOTE	The default UPT installation runs JBoss as a command line process using the user currently logged on. Therefore, when you log out as this user, JBoss will no longer be available for UPT. For that reason, it is recommended that you configure your JBoss servers to run as a Linux or Windows service. The instructions are contained in this section.

To run JBoss as a service, follow these steps:

Step	Action
1	**Linux** See http://wiki.jboss.org/wiki/Wiki.jsp?page=StartJBossOnBootWithLinux.
2	**Windows** To run an existing JBoss command line installation as a service, follow the directions for creating a user-defined service at http://support.microsoft.com/kb/137890/EN-US/ **Note:** You need to have access to the Windows Resource Kit.

Contacting Application Support

NCICB   http://ncicb.nci.nih.gov/NCICB/support
Application   Telephone: 301-451-4384
Support   Toll free: 888-478-4423